



KEY ADVANCES CLINICAL POLICY ALERT

American Heart Association Focused Update on Pediatric Advanced Life Support, 2019

2019 American Heart Association Focused Update on Pediatric Advanced Life Support: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (1)

ABSTRACT: This 2019 focused update to the American Heart Association pediatric advanced life support guidelines follows the 2018 and 2019 systematic reviews performed by the Pediatric Life Support Task Force of the International Liaison Committee on Resuscitation. It aligns with the continuous evidence review process of the International Liaison Committee on Resuscitation, with updates published when the International Liaison Committee on Resuscitation completes a literature review based on new published evidence. This update provides the evidence review and treatment recommendations for advanced airway management in pediatric cardiac arrest, extracorporeal cardiopulmonary resuscitation in pediatric cardiac arrest, and pediatric targeted temperature management during post-cardiac arrest care. The writing group analyzed the systematic reviews and the original research published for each of these topics. **For airway management, the writing group concluded that it is reasonable to continue bag-mask ventilation (versus attempting an advanced airway such as endotracheal intubation) in patients with out-of-hospital cardiac arrest (OHCA). When extracorporeal membrane oxygenation (ECMO) protocols and teams are readily available, extracorporeal cardiopulmonary resuscitation (ECPR) should be considered for patients with cardiac diagnoses and in-hospital cardiac arrest. Finally, it is reasonable to use targeted temperature management of 32°C to 34°C followed by 36°C to 37.5°C, or to use targeted temperature management of 36°C to 37.5°C, for pediatric patients who remain comatose after resuscitation from out-of-hospital cardiac arrest or in-hospital cardiac arrest.**

Policy Recommendations and Focus Points in bold

Recommendation – Updated 2019

1. Best airway management in pediatric cardiac arrest?

Patient Management Recommendations:

Bag-mask ventilation is reasonable compared with advanced airway interventions (endotracheal intubation or supraglottic airway) in the management of children during cardiac arrest in the out-of-hospital setting (OHCA) (Class 2a; Level of Evidence C-LD).

2. Extracorporeal Cardiopulmonary Resuscitation (ECPR) for In-Hospital Cardiac Arrest (IHCA)?

Patient Management Recommendations:

ECPR may be considered for pediatric patients with cardiac diagnoses who have IHCA in settings with existing ECMO protocols, expertise, and equipment (Class 2b; Level of Evidence C-LD).

3. Best Post-Cardiac Arrest Therapeutic Temperature Management (TTM)?

Patient Management Recommendations:

Continuous measurement of core temperature during TTM is recommended (Class 1; Level of Evidence B-NR).

For infants and children between 24 hours and 18 years of age who remain comatose after OHCA or IHCA, it is reasonable to use either TTM 32°C to 34°C followed by TTM 36°C to 37.5°C or to use TTM 36°C to 37.5°C (Class 2a; Level of Evidence B-NR).

References:

Duff JP, Topjian AA, Berg MD, Chan M, Haskell SE, Joyner BL Jr, Lasa JJ, Ley SJ, Raymond TT, Sutton RM, Hazinski MF, Atkins DL. 2019 American Heart Association Focused Update on Pediatric Advanced Life Support: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2019; 140:e904–e914. doi: 10.1161/CIR.0000000000000731. Epub 2019 Nov 14. PMID: 31722551

Resources for additional learning:

<https://pubmed.ncbi.nlm.nih.gov/?term=pediatric+cardiac+arrest>

<https://rebelem.com/rebel-cast-ep75-2019-pals-update/>

<https://www.ahajournals.org/doi/epub/10.1161/CIR.0000000000000732>

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